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**Chief, Rules and Directives Branch**
**Division of Administrative Service**
**Mail Stop T-6D59**
**United States Nuclear Regulatory Commission**
**Washington, D.C. 20555-0001**
***Via email to* IndianPoint EIS@nrc.gov**
**Re: Scoping Process Notice 72 FR 45075**
**August 10, 2007**

**SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT SCOPING COMMENTS OF RICHARD BLUMENTHAL, ATTORNEY GENERAL OF CONNECTICUT, FOR THE INDIAN POINT NUCLEAR GENERATING UNIT NOS. 2 AND 3, DOCKET NOS. 50-247 AND 50-286, SCOPING PROCESS NOTICE 72 FR 45075**

## SUMMARY

The proposed 20-year license extension for the Indian Point Nuclear Power Station threatens significant adverse consequences to human health and safety and the environment. The Nuclear Regulatory Commission (NRC) must take the "hard look" required by the National Environmental Policy Act. NRC must thoroughly and accurately evaluate the impacts resulting from a fire, accident or attack on the stored spent nuclear fuel (SNF) at the site, as those risks will be profoundly increased by the continued operation of the facility over an additional twenty years. In addition, since Indian Point was originally licensed, there has been a major increase in population in the potential emergency evacuation zone. As a result, the NRC must analyze the impact of an accident or attack in the context of a realistic evacuation plan covering areas of both Connecticut and New York. Unless the evaluation proves convincingly that all of these risks can and will be overcome, NRC must deny the relicensing.

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**NEPA**

The National Environmental Policy Act, 42 U.S.C § 4321, *et seq.* ("NEPA"), mandates that federal agencies involved in activities that may have a significant impact on the environment must complete a detailed statement of the environmental impacts and project alternatives. NEPA provides, in pertinent part, as follows:

> The Congress authorizes and directs that, to the fullest extent possible . . .
>
> (2) all agencies of the Federal Government shall -- . . .
>
> (C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --
>
> (i) the environmental impact of the proposed action,
>
> (ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,
>
> (iii) alternatives to the proposed action,
>
> (iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and
>
> (v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

42 U.S.C. § 4332.

NEPA directs that federal agencies, such as the NRC, must study certain issues and that the reviewing agency must take a "hard look" at these issues, but does not direct what result an agency must reach. Federal appellate courts have been very clear, that NEPA is an important federal law and compliance is mandatory. "NEPA was created to ensure that agencies will base decisions on detailed information regarding significant environmental impacts and that information will be available to a wide

variety of concerned public and private actors. *Morongo Band of Mission Indians v. Federal Aviation Administration,* 161 F.3d 569, 575 (9th Cir. 1998)" (quoted in *Mississippi River Basin Alliance v. Westphal,* 230 F.3d 170, 175 (5th Cir. 2000)).

Thus, the fundamental goal of an evaluation under NEPA is to require responsible government agencies involved with a given project to undertake a careful and thorough analysis of the need for that project and its impacts before committing to proceed with the project. As the Tenth Circuit has held:

> The purpose of NEPA is to require agencies to consider environmentally significant aspects of a proposed action, and, in so doing, let the public know that the agency's decisionmaking process includes environmental concerns. *Baltimore Gas & Elec. Co. v. Natural Resources Defense Council,* 462 U.S. 87, 97, 76 L. Ed. 2d 437, 103 S. Ct. 2246 (1983); *Sierra Club v. United States Dep't of Energy*, 287 F.3d 1256, 1262 (10th Cir. 2002).

*Utahns For Better Transportation v. United States Dept. of Transp.*, 305 F.3d 1152, 1162 (10th Cir. 2002).

As the District of Columbia Circuit has held:

> "NEPA was intended to ensure that decisions about federal actions would be made only after responsible decision-makers had fully adverted to the environmental consequences of the actions, and had decided that the public benefits flowing from the actions outweighed their environmental costs." *Jones v. District of Columbia Redevelopment Land Agency*, 162 U.S. App. D.C. 366, 499 F.2d 502, 512 (D.C. Cir. 1974). . . .

*Illinois Commerce Com. v. Interstate Commerce Com.*, 848 F.2d 1246, 1259 (D.C. Cir. 1988).

It is not only the government decision-makers who are to be served by an EIS, but the citizens of this nation as well. As one court noted: "The purpose of an EIS is to 'compel the decision-maker to give serious weight to environmental factors' in making

choices, *and to enable the public to* 'understand and consider meaningfully the factors involved.' *County of Suffolk [v. Secretary of Interior],* 562 F.2d at 1375 (*citing Sierra Club v. Morton*, 510 F.2d 813, 819 (5th Cir. 1975))." *Town of Huntington v. Marsh*, 859 F.2d 1134, 1141 (2d Cir. 1988)(emphasis added.)

**Indian Point**

The Indian Point Energy Center ("Indian Point") is located in the Town of Buchanan, New York. The Indian Point facility currently is owned by Entergy Nuclear Northeast, a licensee of the NRC.

The Indian Point nuclear compound contains three reactors: Indian Point Unit 1, completed in 1962, but retired in 1974 after spending over half the time out of service for repairs; Indian Point Unit 2, which received an operating license in 1973; and Indian Point Unit 3, licensed in 1975. The Indian Point Unit 2 and Unit 3 reactors remain in operation today, as do the three separate spent fuel pools for Unit 1, Unit 2, and Unit 3. As the NRC, the Federal Emergency Management Agency (FEMA), and the Department of Homeland Security (DHS) have all recognized, Indian Point is located in one of the most densely populated regions of the United States. On any given day, approximately, 20 million Americans live, work, or travel within 50 miles of the Indian Point facility.

As described in a publication of the United States Government Accountability Office (GAO") submitted as testimony before the Subcommittee on National Security, Emerging Threats and International Relations on March 10, 2003, ("GAO Report"), there are serious concerns regarding "problems in emergency preparedness [for Indian Point that] remain after being repeatedly identified as needing attention." (GAO Report, pp. 14-15.)

This very sobering report documents how, beginning in 2001, a previous report by the GAO noted that "NRC had identified a number of emergency preparedness weaknesses at Indian Point 2 that had gone largely uncorrected. For example, in 1998 and again in 1999, NRC identified several communication weaknesses, including delays in activating the pagers used to alert the plant's staff about an emergency." (GAO Report, p. 3.)

The GAO's testimony continued with an exhaustive discussion of the history of emergency response failures at Indian Point and concluded as follows:

> In reviewing NRC's reports on its on-site inspections and evaluations of the plant's emergency preparedness exercises or drills completed since we issued our 2001 report, we found that the facility's emergency preparedness program has continued to experience problems or weaknesses. For example, NRC reported that, in an emergency exercise conducted last fall, the facility gave out unclear information about the release of radioactive materials, which also happened during the February 2000 event. In addition, NRC reported that several actions to correct previously identified weaknesses had not been completed. For example, NRC noted that the timely and accurate dissemination of information was identified as a weakness in the fall 2002 exercise and had been documented previously in drill critique and condition reports.

(GAO Report, p. 12.)

**Environmental Impacts**

The proposed 20 year license extension for this facility threatens major adverse consequences. As the New York Attorney General's Office and other parties have commented, extending the useful life of aging infrastructure is a process fraught with difficulties. While a catastrophic bridge failure can have deadly consequences for the motorists on the structure at that moment, a major systems failure at an aging nuclear power station can have vastly greater consequences over a much larger area. The problems inherent in significantly extending the useful life of a facility that was designed

to operate for a set period of time are manifold and extremely problematic. These concerns are accentuated by the fact that the plant operators have an unfortunate history, as described in the GAO Report, of failing to meet accepted operational standards. NRC must closely scrutinize this application to determine if it is even possible for a facility with its lengthy history of systems failures to be granted an additional 20 years operation past its original design.

The Attorney General of Connecticut fully supports the scoping comments of the Attorney General of New York and, additionally, adds the following recommendations.

**A. Spent Fuel**

At present, the two operating nuclear power reactors at Indian Point store decades of accumulated spent fuel in water-filled storage pools located on-site. This is due to the continuing failure of the Department of Energy (DOE) and NRC to license and build a national permanent repository for spent fuel at Yucca Mountain, Nevada. Furthermore, even when built, Yucca Mountain is designed to contain only 77,000 metric tons of spent fuel. At current estimates, that amount will have been generated by 2010 and, if re-licensed, Indian Point will continue to produce spent fuel many more years after that.

Over the years, in order to store more fuel rods, Entergy and its predecessors have placed them in an extremely dense configuration within these pools. As a consequence, the majority of the radioactive material at Indian Point is not located within the containment structures protecting the operating reactors, but within the poorly protected spent fuel pools. The danger created by these high-density storage pools in the event of an accident or terrorist attack is obvious. Indian Point is located in one of the most densely populated areas of the country, an area which includes not only New York City

and much of southern New York and northern New Jersey, but also much of the State of Connecticut, within its potential exposure zone.

In recent years, many experts have recommended moving spent fuel that has cooled for at least five years from fuel storage pools into dry cask storage. Such storage is viewed as safer and more protective than the highly vulnerable fuel pools. While Entergy has proposed a dry cask plan for Indian Point, the plan would not move all of the older fuel into dry cask storage, but only enough to make room for additional spent rods created by continuing reactor operation. Thus, the plan will not result in any decrease in the density of the spent fuel rods stored in the pools, nor otherwise reduce the unacceptable risks of the existing spent fuel pool. The plan will merely allow Entergy to *increase* the total available fuel storage capacity at Indian Point while keeping the fuel pools full. The plan has significant economic benefits for Entergy, but significant safety disadvantages, because the amount of fuel in pool storage will not be reduced. In fact, the problem will be gravely exacerbated by 20 years additional accumulation of highly radioactive fuel rods.

Furthermore, NRC has not properly evaluated the consequences of terrorist attack on the spent fuel storage area and it must do so now. In an October, 2000, study, the NRC admitted that:

> "the risk analysis in this study did not evaluate the potential consequences of a sabotage event that could directly cause off-site fission product dispersion, for example, a vehicle bomb driven into or otherwise significantly damaging the SFP [Spent Fuel Pool], even after a zirconium fire was no longer possible."[1]

[1] NRC Report February, 2001, NUREG -1738, at 4-15. This report is respectfully incorporated by reference.

An accident or attack could release deadly amounts of radiological material and toxic fumes. The NRC October 2000 report stated:

> This reaction of zirconium and air, or zirconium and steam is exothermic (i.e., produces heat). The energy released from the reaction, combined with the fuel's decay energy, can cause the reaction to become self-sustaining and ignite the zirconium. The increase in heat from the oxidation reaction can also raise the temperature in adjacent fuel assemblies and propagate the oxidation reaction. The zirconium fire would result in a significant release of the spent fuel fission products which would be dispersed from the reactor site in the thermal plume from the zirconium fire. Consequence assessments have shown that a zirconium fire could have significant latent health effects and resulted (sic) in numbers of early fatalities.[2]

A Department of Energy report indicates that such a fire would release considerable amounts of cesium-137, an isotope that accounted for most of the offsite radiation exposure from the 1986 Chernobyl accident.[3] Another report, authored by NRC, concludes that, in the event of a pool fire, approximately 100 percent of the pool's inventory of cesium would be released to the atmosphere.[4]

The emission of radioactive particles from a spent fuel pool accident would lead to horrific consequences. The NRC study stated that human fatalities within the first year of such an event "can be as large as for a severe reactor accident even if fuel has decayed several years."[5] The radioactive fallout from this type of release could also make tens of thousands of acres of land uninhabitable.

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[2] NRC Report February, 2001, NUREG 1738 at 3-1 (internal citation omitted).

[3] *See* US Department of Energy, Health and Environmental Consequences of the Chernobyl Nuclear Power Plant Accident, DOE/ER-0332 (Washington, DC: DOE. June 1987). This report is respectfully incorporated by reference.

[4] *See* V L Sailor et al, Severe Accidents in Spent Fuel Pools in Support of Generic Safety Issue 82, NUREG/CR-4982 (Washington, DC: NRC, July 1987). This report is respectfully incorporated by reference.

[5] *See* NRC Report February, 2001, NUREG 1738 at 3-34.

The concerns raised by these reports find further support in the recent National Academy of Science (NAS) study regarding the risks posed by spent fuel pools.[6] As the NRC is aware, the NAS Study concluded that a successful terrorist attack on spent fuel pools was possible and recommended an independent assessment of current security measures.

Accordingly, the environmental evaluation must study the consequences to human health and safety and the environment from an accident or attack on the accumulated stored fuel in a storage system that poses obvious risks that have never been fully considered.

**B. Evacuation**

The emergency planning area for Indian Point includes plans covering both a 10-mile radius emergency planning zone ("EPZ") and a separate 50-mile radius ingestion pathway EPZ. The 50-mile radius EPZ includes substantial portions of the State of Connecticut, including its largest city, Bridgeport, and its most populous county, Fairfield. The immediate consequences of an evacuation order would affect approximately 1/3 of the population of Connecticut.

In 2003, James Lee Witt, the former director of the Federal Emergency Management Agency (FEMA), issued a report detailing the deficiencies in the emergency evacuation plan for the Indian Point EPZ. Mr. Witt concluded that safe evacuation of the area surrounding Indian Point is highly unlikely, if not impossible. [7]

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[6] National Research Council of the Nat'l Academies, Safety and Security of Commercial Spent Nuclear Fuel Storage: Public Report 17, 40 (2006). This report is respectfully incorporated herein by reference.

[7] James Lee Witt Associates, Review of Emergency Preparedness of Areas Adjacent to Indian Point and Millstone (2003). This report is respectfully incorporated by reference.

In the past, the NRC has failed to evaluate evacuation protocols as part of the NEPA process for a license extension application. This omission is unacceptable, and would constitute a patent violation of NEPA, if it were allowed in the consideration of Indian Point's relicensing application.

Under NEPA, a reviewing agency is required to consider the impact on the environment resulting from the total effects of the contemplated action and other past, present, and "reasonably foreseeable" future actions. See 40 C.F.R. 1508.7 (1990). Furthermore, NEPA mandates that federal agencies contemplating "major federal actions significantly affecting the quality of the human environment," 42 U.S.C. § 4332(2)(C), are obligated to include in the recommendation or report on the anticipated action an environmental impact statement ("EIS"), as "evidence that an agency has considered the reasonably foreseeable environmental effects of a proposed major action before making a decision to take the action." *Town of Orangetown v. Gorsuch*, 718 F.2d 29, 34 (2d Cir. 1983), *cert. denied*, 465 U.S. 1099 (1984).

The required EIS must identify and discuss all anticipated adverse impacts in a clear and comprehensive fashion, including any adverse unavoidable environmental effects resulting from the implementation, alternatives to the proposed action, the relationship between short-term uses and the long-term maintenance of the environment, and any irretrievable commitments of resources involved in the proposed action. § 4332(2)(C). Such a detailed statement "insures the integrity of the agency process by forcing it to face those stubborn, difficult-to-answer objections without ignoring them or sweeping them under the rug" and serves as an "environmental full disclosure law so that the public can weigh a project's benefits against its environmental costs." *Sierra*

*Club v. United States Army Corps of Eng'rs* (Sierra Club II), 772 F.2d 1043, 1049 (2d Cir. 1985); *see also Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349, (1989).

It is unacceptable for the NRC to say that emergency planning is the domain of another federal agency (FEMA or DHS) and thereby decline to examine the environmental impacts resulting from the need to evacuate citizens from the EPZ or the impacts of a deficient evacuation plan and process. The emergency evacuation plan is a central and critical element of the NRC's reactor permit and regulatory program. Thus, the NRC's NEPA review of the potential impacts resulting from operation of two nuclear reactors, three spent fuel pools, and dry cask storage facility for an additional 20 years must include an analysis of the impacts of the emergency evacuation plan for Indian Point, and whether it is meaningful and effective.

This is particularly true because an accident or attack at the Indian Point facility would not only result in a potential catastrophe for the local population, but would have far reaching downwind effects. As was demonstrated by the 1986 disaster at the Chernobyl nuclear power station in the Ukraine, not only are people in the vicinity affected by a major release of radioisotopes, but vast areas at great distances can become significantly contaminated, creating disastrous public health and environmental consequences for communities many miles from the actual site. Further, these adverse impacts can continue for many years after the event. Consequently, in preparing an SEIS for the Indian Point facility, NRC will need to address the impacts to human health and safety and the environment of an immediate accident or attack on the entire potentially impacted downwind environment, which includes most of Connecticut, as well as the

collateral impacts of the long-term relocation of up to 11.7 million people in the event of major downwind contamination.

**C. Alternatives Analysis.**

A central responsibility of any SEIS is an evaluation of the public need for the project and a careful review of any reasonably foreseeable alternatives that could meet that need with fewer adverse impacts. As the United States Court of Appeals for the Second Circuit said over thirty years ago, the

> requirement that the agency describe the anticipated environmental effects of proposed action is subject to a rule of reason. The agency need not foresee the unforeseeable, but by the same token neither can it avoid drafting an impact statement simply because describing the environmental effects of and alternatives to particular agency action involves some degree of forecasting. . . . It must be remembered that the basic thrust of an agency's responsibilities under NEPA is to predict the environmental effects of proposed action before the action is taken and those effects are fully known.

*Scientists Institute For Public Information, Inc. v. Atomic Energy Commission*, 481 F.2d 1079, 1092 (2d Cir. 1973).

> What is required is a review of projects that are reasonably foreseeable. Reasonable forecasting and speculation is thus implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as 'crystal ball inquiry.' . . . But implicit in this rule of reason is the overriding statutory duty of compliance with impact statement procedures to 'the fullest extent possible.'

*Scientists Institute For Public Information, Inc. v. Atomic Energy Commission,* 481 F.2d 1079, 1092 (2d Cir. 1973). *See also, Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972) ("[T]he requirement in NEPA of discussion as to reasonable alternatives does not require 'crystal ball' inquiry. Mere administrative

difficulty does not interpose such flexibility into the requirements of NEPA as to undercut the duty of compliance 'to the fullest extent possible.'")

"NEPA was created to ensure that agencies will base decisions on detailed information regarding significant environmental impacts and that information will be available to a wide variety of concerned public and private actors. *Morongo Band of Mission Indians v. Federal Aviation Administration*, 161 F.3d 569, 575 (9th Cir. 1998)." *Mississippi River Basin Alliance v. Westphal*, 230 F.3d 170, 175 (5th Cir. 2000). As the Ninth Circuit recently stated:

> When we consider the purposes that NEPA was designed by Congress to serve, what was done here is inadequate. Congress wanted each federal agency spearheading a major federal project to put on the table, for the deciding agency's and for the public's view, a sufficiently detailed statement of environmental impacts and alternatives so as to permit informed decision making. The purpose of NEPA is to require disclosure of relevant environmental considerations that were given a "hard look" by the agency, and thereby to permit informed public comment on proposed action ...

*Lands Council v. Powell*, 379 F.3d 738 (9th Cir. 2004).

Therefore, NRC's SEIS must include a reasoned discussion of alternatives to this application. Those alternatives include, without limitation, whether or not the energy produced by each (or both) of the two operating reactors could be obtained through alternative means – such as energy efficiency, energy conservation, or other forms of energy generation, including renewable energy sources.

As the NRC has recognized, a wide variety of energy efficiency and conservation technologies could be considered as alternatives to generating electricity at Indian Point. These technologies include hardware, such as more efficient motors in consumer appliances, commercial establishments, or manufacturing processes; more

energy-efficient light bulbs; and improved heating, ventilation, and air conditioning systems. Also, structures could be weatherized with better insulation, weather stripping, and storm windows. In recent years, various renewable energy technologies have been deployed on an ever increasing scale. For example, in recent years energy generation has increased from wind, biomass, and photovoltaic technologies.

## CONCLUSION

The NRC is obligated by law to complete a thorough and accurate SEIS and to take a "hard look" at the cumulative adverse impacts of this project before approving an extension of the operating license. Foremost among the critical risks are the problems inherent in determining whether a nuclear power station can safely operate for twenty years beyond its original design specifications, the grave risks resulting from an additional 20 years accumulation of spent nuclear fuel and the need to ensure a practically workable evacuation plan. If the NRC cannot ensure safe solutions to all of these problems, then it cannot relicense this facility.

Respectfully submitted,

/s/ Richard Blumenthal

RICHARD BLUMENTHAL
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Dated: October 11, 2007